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ABSTRACT

This paper describes the development and dissemination of microteaching methods in Europe and some African countries, with emphasis on the United Kingdom and Germany. A tool for teacher preparation, microteaching trains teaching behaviors and skills in small group settings aided by video-recordings. Consistent with education reform efforts, the European microteaching movement grew out of a dissatisfaction with three features of the prevailing model of traditional teacher education programs: (1) that student teachers could become reflective and skilled practitioners by separating academic studies from practical experience; (2) professional education courses; and (3) inadequate and unsystemmatic field observations and experiences. Attempts to reform and democratize universities and colleges, development of other laboratory-based teacher training methods, the revival of empirical analytical research, and introduction of video into educational settings are presented. Also presented are: adaptations, developments, and uses of microteaching in Europe; a comparison of the United States and European approaches; and a discussion of research on microteaching in Europe. An extensive list of 174 references is included. (LL)

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THE DEVELOPMENT OF THE MICROTEACHING MOVEMENT IN EUROPE

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The Development of the Microteaching Movement in Europe

This paper describes the development and dissemination of microteaching methods in Europe and some African countries. Because some sources are sometimes difficult to obtain, and often in languages which we cannot read (e.g., Hungarian, Italian), our coverage is more complete for some countries than for others. We focus on the developments in the UK and Germany (especially the states that formerly constituted West Germany), countries in which microteaching seems to have be used and studied most widely.

In the following sections we will sketch the background of the development, adaptation, and dissemination of microteaching, describe the basic forms it took, provide examples, and give an overview of European research on this tool for teacher preparation.

Background

After their inception in the late 1960s and early 1970s the use of microteaching spread rapidly in the US, in Europe, and in developing countries. Microteaching in Europe developed from an adaptation of American models and from "native" European approaches. The American microteaching approach was developed at Stanford University (Allen & Ryan, 1969; French translation, 1972; German translation, 1972) and extended in work on the "minicourse" (Borg, Kelley, Langer, & Gall, 1970). The initial European approach, called "Training des Lehrverhaltens mit Fernseh-Aufzeichnungen in Kleingruppen-Seminaren" (training of teaching behavior in small group settings aided by video-recordings) was developed by Zifreund (1966; 1967; 1968) at the Universität Tübingen (West Germany).

Several factors account for the strong interest, quick acceptance, and wide use of microteaching in Europe, as well as for the generation of a large body of European research on microteaching and related approaches to teacher education: (i) dissatisfaction with traditional teacher education programs and procedures, (ii) contemporaneous attempts to reform and democratize European university and colleges, (iii) related efforts to develop other laboratory-based training methods, (iv) revival of empirical-analytical classroom research in Europe, and (v) introduction of video into educational settings.

Dissatisfaction with Traditional Programs and Procedures

As in the US, the European microteaching movement grew out of a dissatisfaction with traditional teacher education programs. The introduction of microteaching into European countries came at a time when many academicians and psychologists were critically examining teacher education approaches and practices (e.g., Stones & Morris, 1972; Tausch & Tausch, 1965; Zifreund 1966). Serious doubts were raised about the prevailing opinion (as expressed, e.g., by Geissler, 1970) that student teachers could be helped to be reflective and skilled practitioners by separate experiences in subject-matter courses, professional-education courses, and field observations and experiences.

Three features of this prevailing model were questioned: the separation of subject matter and educational theory courses from practical experiences, the effectiveness of professional education courses themselves, and the arbitrary and unsystematic arrangements usually made for preservice teachers to observe and practice teaching.

Separation of academic studies from practical experience. One major belief of university and college circles was challenged, namely that teacher education in its first phase (e.g., in West Germany conducted at universities and colleges, three to six years) should be almost entirely "academically oriented." That is, scholars questioned the model in which initial teacher preparation was devoted to learning two or three subject matters in conjunction with study of theoretical pedagogy. These scholars argued that practica should do more than merely deepen the acquired theoretical understanding.

Rather than assuming that skills for effective and appropriate classroom activities should be learned in a second phase (as for example, in Scotland in a College of Education, in West Germany usually two years of on-the-job training at state teacher training institution outside the university), these scholars called for an increase emphasis on practice during the first phase of university teacher education (e.g., Perrott, 1976; Zifreund, 1966).

Effectiveness of professional education courses. Serious doubts were also raised about the effectiveness of professional education courses in helping teachers acquire classroom skills. It was argued that the acquisition of knowledge and insights does not automatically lead to appropriate action (e.g., Zifreund, 1966, p. 26). Teachers cannot easily turn verbal abstractions into skills for appropriate and effective classroom behavior. As a result, university courses have less influence on teachers' practice than biographical, socio-cultural, and institutional determinants and prior experiences as pupils (e.g.,

Hargie & Maidment, 1979; Zifreund, 1966). This criticism was similarly expressed in other European countries.

Taking a slightly different point of view, Morrison and McIntyre (1969) argued that

> much of the instruction given (on teaching methods) is given in the form of a series of practical hints and suggestions which, pragmatically justified, are not conceptually related to one another. . . . The problem is that theoretical courses are not about teaching and that methods courses, which <u>are</u> about teaching, have no theoretical foundations. (p. 59)

<u>Inadequate and unsystematic field experience</u>. At the same time, European scholars complained that the dominant patterns of student teaching and field experience were inadequate for developing teaching skills, whether or not these were based in theoretical components of a teacher education program. In the UK, Morrison and McIntyre (1969) concluded: "Although research evidence is lacking, there seems good reason to believe that the procedures outlined above are crude and inefficient means by which to train students in the practical skills of teaching" (Morrison & McIntyre, 1969, p. 61).

Similarly, scholars in West Germany questioned whether field experience in the normal school is the best teacher and is able to bring about reflective, innovative, and skillful professional practice (e.g., Zifreund, 1966 and the literature cited in his book). Scholars called for more controlled practice settings that would have the potential to link theory and practice (e.g., Klinzing, 1976).

Learning to teach merely from field experience was seen as irresponsible. A major West German educational psychology textbook complained that "such a learning from trial and error, from mistakes and success--which can hardly be tolerated for automechanics--does not seem

an appropriate method for accomplishing appropriate educational behavior" (Tausch & Tausch, 1965, p. 21).

In addition to the doubts about the efficiency of traditional teacher induction, its inherent conservatism or resistance to innovation was also criticized. Because prospective teachers face complex, demanding classroom situations, it was argued, they are not only unable to apply the theoretical insights and prescriptions, but are also likely to fall back on their own experience as a pupils, regardless of whether or not those behaviors are appropriate. Such regression may be supported by supervisors and cooperating teachers who recommend adjustment to the demands of the "practice as it is." Because novice teachers' professional careers depend heavily on the evaluations of their supervising experienced teachers, the novices may feel obliged to adapt to the personal preferences of the supervisors--irrespective of the actual classroom situation or the needs of the students--instead of trying out interesting new approaches or ideas suggested by research (e.g., Hargie & Maidment, 1979; Zifreund, 1966).

European scholars suspected that this process not only was ineffective and impeded innovations, but also created undesired side effects contradicting the goals of democratic education. As Zifreund (1966) stated: "To point it out sharply, it is uncertain if supervised practice contributes to the improvement of teaching behavior. But there is no doubt that it contributes to making student teachers un-free and accustoms them more readily to follow authorities" (p. 15).

Attempts to Reform and Democratize Universities and Colleges

The development, adaptation, and dissemination of teaching laboratories, especially microteaching, was strongly supported by the reform movement at universities and colleges in the 1960s, especially in West Germany. In short, this movement asked for a more democratic structure and for more practice-oriented studies at universities and colleges.

Students and progressive staff members challenged the hierarchical structure of the institutions, as well as the content and form of university teaching. They tried to foster democracy and an education-oriented attitude in this traditionally authoritarian organization. Students claimed rights to contribute to administration of the university, as well as to participate in the organization and selection of the content of research and teaching.

The formal teaching methods typically used were especially criticized for their contribution to the authoritarian structure of university education. Instead of lectures and the formal seminars and courses, new ways of teaching and learning were proposed, including: participating in projects (student as researcher), learning by doing, small group methods, and individualized instruction. The development of teaching laboratories in general, and microteaching in particular, were strongly promoted and influenced by this democratic movement. Many students and university teachers associated with the democratic movement were, for example, enthusiastic about experimentation with changes in behavior through work in groups of students with little or no faculty supervision (as suggested by Zifreund, 1966). In teacher education,

practice oriented courses became more important, with increased emphasis on doing rather than telling.

During this period, then, university students and progressive educators were calling for a more democratic and practice oriented teacher education the university phase of teacher education, encouraging a closer connection between theory and practice.

Development of Other Laboratory-based Teacher Training Methods

In response to this call, two methods for linking theory and practice were adapted or developed: the group-dynamic approaches derived from the training laboratories developed in the 1940s and 1950s in the USA (Bradford, Gibb, & Benne, 1972; Lewin, 1947; Minssen, 1965) and the Erfahrungstraining (experience training) approach to developing social-integrative attitudes and behavior (Tausch & Tausch, 1965).

Training approaches using methods based on group dynamics were introduced in Europe in the early 1960s. The first course on group dynamics for teachers in West Germany was conducted in 1963 with support of the National Training Laboratories in Washington, D.C. and Bethel, Maine. (See Brunner, 1976; Minssen, 1965.) This enterprise explored a new approach thought to link intellectual reflection and--via changes in psychological dispositions--systematic behavior training. Advocates of this approach believed that mere presentation of educational and psychological information was insufficient for learning appropriate teaching behavior or for changing teaching behavior. The course was strongly based on the laboratory training developed at the National Training Laboratories: T-groups and theory sessions (e.g., Bradford et al, 1972).

At about the same time in West Germany, Tausch and Tausch (1965) developed a training approach for reducing autocratic attitudes and for promoting social-integrative attitudes. It focused on supporting dimensions of behavior which were regarded as generally appropriate and helpful for children (e.g., friendliness, empathy) and discouraging inappropriate and detrimental dimensions (e.g., unappreciativeness). Programs derived from this approach contained exercises for developing a refined perception (rating of teacher behavior) and exercises for helping educators to behave appropriately in critical (conflict) situations (e.g., critical incidents, reacting verbally to critical situations experienced by the participants). Later, live or film/video demonstrations of appropriate (social-integrative) model behavior and exercises for appropriate (non-directive) interaction behavior (very similar to those on critical situations) were included into the program (Tausch & Tausch, 1971). Another training component added later was the training of client-centered behavior, which was similar to the work on critical situations. These courses were organized in small groups in order to give as much opportunity as possible for independent social interaction, with minimal trainer influence.

Training programs derived from both approaches are used in German teacher education programs, often combined with components such as theory presentation, analysis of one's own classroom behavior, or microteaching (e.g., Lutz & Ronellenfitsch, 1971; Minsel & Minsel, 1973; Minsel, Minsel, & Kaatz, 1976; Nickel, Schwalenberg, & Ungelenk, 1974; Prose, 1973; Teegen & Kranz, 1972).

These teaching laboratories attempted to improve teaching behavior by emphasizing changes in psychological constructs assumed to underlie overt behaviors, such as aspects of teacher personality, attitudes, perceptions, and cognition. The assumption was that such changes serve to influence manifest teaching competencies. These methods of training have their roots in humanistic psychology (e.g., Tausch & Tausch, 1978). In addition to their impact on the development of microteaching, these methods also influenced other approaches to improve social or teaching competence, such as the use of play and game-like exercises (Leuteritz, 1987; U. Zifreund, 1971; 1976; see also Klinzing & Leuteritz, 1986), or assertiveness training in teacher education (Steiger, Kunkel, Schiefer, & Klinzing, 1984).

Such methods for improving teaching created an increasing interest in European countries and were discussed widely in the literature. The two main West German bibliographical indices for education (BIB-report, 1974 -1987; Auswahl-Dienst: Informationen für Erziehung und Unterricht, 1976-1986) list 29 papers and monographs published since 1974 on such methods. This represents about two percent of all publications on teacher education listed in these indices. Courses to train teachers in this manner were conducted at many European institutions. A survey conducted to assess the use of approaches related to group-dynamics and humanistic psychology revealed, for example, 19 out of 61 West German universities and teacher training colleges used those approaches at least once during 1981 (Brunner, 1985).

Precise information concerning the origins, dissemination, and influence on the development of microteaching of these methods in other

European countries is, unfortunately, not readily available. But, at least in West Germany, the discussion, use, and evaluations of these methods laid the groundwork for the quick acceptance of microteaching. They provided support for the idea that improvement of social competence (hence teaching competence) can be acquired more readily in laboratory settings (i.e., settings in which ways of acting can be practiced with peers) than in the traditional settings for classroom observation and practice.

The Revival of Empirical-Analytical Research

Teaching has been perceived by many teachers, teacher educators, and even researchers as a subjective experience, value driven, personal and complex, thus not amenable to analysis. University courses and student teaching supervisors often provided information and recommendations that were based on abstract philosophical speculations about teaching, subjective criteria, and personal experiences. Such a situation--common in Europe in the 1950s--was not conducive to the acceptance of an approach like microteaching.

In the 1960s, however, European educational research began to shift toward an empirical-analytic approach. In West Germany, this approach had started in the 1920s, was stopped by the Hitler regime, and--strongly influenced by American research--started again in the early 1960s. Against the dominant "geisteswissenschaftlich"-oriented academicians (who still dominate in many areas of education), some researchers argued that this "armchair work" was insufficient to improve classroom practice and teacher education. Rather than relying on discussions on what teaching is and how it should be, these

investigators proposed to conduct research on effective teaching methods as well as on approaches to teacher training. Influenced by US research on behavior modification, research based on systematic classroom observation became prominent in Europe, especially in the Netherlands, West Germany, and the UK. Many scholars believed that these empirical studies provided a more reliable base for teacher education (e.g., Zifreund, 1966). By making discussions about teaching more intersubjective, concrete, and practical, student teachers and teachers could be prepared in research-based programs, thereby making education and teacher education less dependent on authority figures.

Introduction of Video into Educational Settings

A final factor supporting the adoption of microteaching was the introduction of video technology in educational settings. As soon as video recording became reliable, practicable, and economical enough to be used in instruction and research, it was widely introduced in teacher education in European countries. It was used both to transmit information to a large groups of people and to make recording for immediate or future viewing.

In Belgium, France, the UK, West Germany, and Hungary, interest in using video technology to improve teacher education led to providing trainees with demonstrations, material for analysis, and for feedback purposes. Initially, video recordings were used as a medium of mass instruction. They were designed to provide classroom observation experience for a steadily increasing number of student teachers in West European countries in the early 1960s. Experimentation with other uses began in Scotland and England in 1962; West Germany in 1963; Belgium in

1965; France in 1985; Spain in this same period. (See Butts & Trott, 1986; Cano & Arrom, 1986; Renault, 1986; Schorb, 1965; Therer, 1986.) Traditional observation experiences involved having a student teacher sit in the back of a classroom and observe the ongoing teaching. Video transmission could now provide "comparable" experiences to many of student teachers, without disturbing the class. At many universities and teacher training colleges, courses were conducted containing video-recordings of "authentic", whole classrooms as well as selected aspects of the teaching process, combined with lectures, printed material, and group discussions.

This development led to the establishment of television departments in many universities in Western Europe, especially in Scotland, England, France, Belgium and West Germany. Such departments were later set up in Eastern European countries (e.g., Hungary) as well. These video centers were important factors in the dissemination of microteaching to many teacher training institutions. The subsequent introduction of inexpensive, lightweight video equipment made video a more flexible tool and increased its usage.

Many scholars saw the potential to use video for more than the presentation information or unstructured observation experiences. Showing video representations of existing educational procedures was criticized for reinforcing problematic existing teaching methods. The classroom observation was seen as passive and unfocused. Thus using video merely to bring classroom events to university students was seen as inefficient and possibly counterproductive (Zifreund, 1966). In contrast, Zifreund and others proposed using video as an innovative,

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enabling device around which new components of teacher education could be developed and re-designed. This critique gave the final push for the development of alternative teacher training methods, like microteaching.

In summary, a combination of circumstances accounts for rapid the adaptation, development and dissemination of microteaching and related approaches in Europe. Dissatisfaction with the disconnected phases of teacher education, a desire for more democratic education, an increased orientation toward practice, success applications of related approaches (e.g., group dynamics) and the emergence of cost-effective video equipment all contributed to the warm reception given to microteaching.

Adaptations, Developments, and Uses of Microteaching in Europe

The large number of related publications and surveys indicates that microteaching was widely used in Europe during the late 1960s and early 1970s. Growth of the literature seems to show a continued spread through many European countries and into countries in Africa and Asia (e.g., India). The approach was applied to a wide range of practices in teacher education and in other areas (e.g., McAleese, 1983). Numerous attempts were also made to gain a better understanding of the microteaching process. These attempts were guided by a variety of rationales, theories, or principles. Our report focuses on the countries pioneering the microteaching idea in Europe--UK and West Germany--where it probably was and still is most widely used.

United Kingdom

In the UK, microteaching activities started in 1966/67. Several potential advantages of microteaching over conventional methods of teacher training were seen. As in the US, emphasis was on the

development of isolated teaching skills, especially at early stages of the adaptation of microteaching. Developments in the UK also emphasized outcomes beyond these teaching skills, including abilities like identifying skills, self-awareness, self confidence, and self-appraisal, and (in later developments) analysis and deliberation related to theory. For example, in discussing the advantages of microteaching, McIntyre, MacLeod, & Griffiths (1977) wrote that:

> (i) it provides a learning environment for student-teachers which is less complex than the normal school classroom and therefore one in which there is greater opportunity for the deliberate practice of teaching skills; (ii) it provides a context in which the student-teacher's primary responsibility is to learn, not that of coping with the various needs and demands of his pupils; (iii) it allows the student systematically to analyze his own teaching and to make his own evaluation of it; (iv) it allows for repeated practice until a skill is mastered in one context before it is necessary to transfer the use of that skill to other contexts; (v) the systematic definition and practice of teaching skill allows close links to be established between students' theoretical studies and their practice teaching. (p. 11)

Two universities in the UK--Stirling and the New University of Ulster--were the first to import the Stanford University microteaching model into Europe (Butts & Trott, 1986; Falus, 1975; McGarvey & Swallow, 1986; McIntyre, MacLeod, & Griffith, 1977; Perrott, 1967, 1977). Beginning in 1968, microteaching was used in Stirling University'smxecondary teacher education program in professional and subject matter studies. The university's involvement in teacher education was itself an innovation, because the training of graduate teachers in Scotland was traditionally the province of the colleges of education (Perrott, 1972). Microteaching at Stirling University was used in the second to the fifth semesters in the seven (general degree) or nine semester studies (honor degree) with secondary school teaching

qualifications in close integration of the academic studies (subject matter and education) and the practica. The skills taught through microteaching included: teacher initiation and response, reacting to pupil contribution, varying the stimulus, questioning for feedback, clarity of explanation, use of examples, and higher order questioning. A research project funded for six years supported the development and refinement of microteaching.

At the end of 1969 the New University of Ulster opened a microteaching laboratory (Falus, 1975; McAleese & Unwin, 1971; Perrott, 1977). It was the first microteaching unit in Ireland and the second to Stirling in the UK (Falus, 1975). At that time students taught about ten teach-reteach cycles (each about 15 minutes long) with feedback (video recordings, ratings, and tutors), in groups of five pupils, in the second year of their three year training course. The skills taught through microteaching were: concept teaching, teacher animation, giving clear directions individualizing teaching, getting and holding attention, asking thought questions, and reinforcement and feedback. Later, in the early 1970s--as Falus (1975) reports--the format was changed. As at the University of Stirling, microteaching was integrated with other subjects in teacher training in the four year program leading to an honors degree inclusive of a teaching qualification. At the end of the first year, student teachers did peer teaching (three microlessons) with video-feedback and group discussions (without supervision) for familiarization with the microteaching situation. During the second year the student teachers taught a microlesson every week as follows:

- lecture (one hour) about the skills to practiced (with appraisal guide) and demonstrations;
- seminar on planning the microteach; planning the microlessons or a small curriculum in teams of three or four students;
- teaching of a third or half class, a group of ten to sixteen pupils (10 to 15 minutes for each student teacher), which was video-recorded;
- review (self-evaluation based on rating scales or observation instruments, supervision of an experienced tutor, and group discussion).

From the early 1970s on, microteaching facilities were widespread among teacher training institutes, especially teacher training colleges. At many institutions however, microteaching was less an integral part of teacher training than it was at Stirling and Ulster. Microteaching was soundly conceived as an innovation and created a great interest in the literature but was less soundly implemented (e.g., Hargie & Maidment, 1979). At most places, it was used as an addition to the teacher education program--included as part of a course, used occasionally with a small number of students, or used as part of a research project. Predominantly, microteaching programs were short and were offered to a fraction of all student teachers. The following examples illustrate applications of microteaching in the UK.

Beginning in 1973, Jordanhill College of Education used microteaching in its initial preparation program and for postgraduate students in history and for students studying different subject matters at the outset of their teaching practice. Jordanhill's applications

followed Stanford model. Beginning teachers were taught four questioning skills in two cycles (model film viewing-teach-replay and discussion-reteach-replay and discussion); the other students were taught skills including: clarity of exposition, questioning, pacing and rhythm, group management, and individual learning were trained (also in cycles as described above) (Butts & Trott, 1986; Falus, 1975).

At the University of Aberdeen, microteaching was applied to train university staff. Every year, faculty members (especially new faculty members) had the opportunity to participate in a 7-9 day course for training university lecturers. The focus was on lecturing techniques and small group teaching methods, without specifying the component skills (with related feedback instruments) and without having the opportunity to reteach (McAleese, 1973).

Using microteaching as a part of an optional course (which also made use of simulations, critical incidents, and interaction analysis), Berkshire College of Education offered microteaching for their fourth year student teachers after their student teaching. Six skills (mainly similar to Stanford skills) were trained over a period of 12 weeks. A lecture was delivered on a teaching skill followed by two mornings of microteaching practice (teach-playback of teach-discussion in the training group with a tutor-reteach-feedback and discussion as for the teach).

A comprehensive survey of microteaching practice in Britain (Hargie & Maidment, 1979) done in 1975, revealed that 64 percent of teacher education institutions in Britain used microteaching. Another 14 percent planned to use microteaching. In a subsequent publication

(Hargie & Maidment, 1979), the authors predicted an expansion of microteaching. The majority of microteaching establishments, predominantly colleges, offered microteaching as a "gentle introduction to teaching in classrooms, that is, prior to teaching in classrooms" (Hargie & Maidment, 1979, p. 79). To a lesser degree it was also used for inservice teaching. Although microteaching was very popular, it was only offered to about 10 percent of those enrolled in teacher education.

As this survey suggests, the model of microteaching typically used in the UK deviated only slightly from the model developed Stanford. By 1975, however, organizational factors, divergent purposes, resources, and research and experience in the UK's microteaching centers had led to clear departures from the Stanford model, such as moving the location to schools or varying the training format.

The survey provided information on the variation in microteaching models used in the UK. The following are the major results of this survey:

- Microteaching was most often used in universities, but was also extended to school locations.
- Microteaching was most often used prior to teaching practice but was also--to a lesser degree--used in other phases of the curriculum (e.g., after school practice as remedial training).
- Almost all institutions used lectures and seminars as conceptual intervention strategies to promote cognitive acquisition of teaching skills; 60 percent of teacher training institutions used models (mostly models of their own staff or students); six to ten skills were offered for a microteaching course.

- For the microteaching sessions, 80% of the institutions used peer groups of fellow students; 63% used pupils or peers; 43% use pupils. The average number of students/peers in a microclass was eight, but also many used five or six or ten.
- The duration of microlessons varied around a mean of about 10 minutes. Often duration was shorter or much longer (sometimes more than 30 minutes).
- The reteach element in the microteaching cycle was abandoned in 43% of the institutions.
- Feedback was provided most often by tutors to the training group (80%), but self evaluation was often also used. To evaluate microteaching practice behavior ratings were used in 51% of the institutions; counts of target behaviors were used in 38% of the institutions.

Scholars at number of institutions in the UK undertook studies of microteaching. A study at the Coventry College of Education, for example, compared the effectiveness of a Stanford-type, one-week, intensive microteaching course for first year students (without any teaching experience) to its effectiveness for third year students having already completed their school practice on questioning behaviors (Kelly, 1973). Falus (1975), working at the Callender Park College of Education, studied the relative effectiveness of three approaches: training in an observation instrument (Flanders Interaction Categories, FIAC) plus microteaching practice with feedback; the component skills approach plus microteaching, and the teacher practicum. Perrott (1975) evaluated a version of minicourse 1 (developed at the Far West

Laboratory for Educational Research and Development) used at the University of Lancaster.

Although in published literature emphasized evaluations of what works in the general microteaching model, some critical analyses and reports of experimental studies discussed theoretical claims about why this method works. Although some complained about the lack of an explicit rational (e.g., MacLeod & McIntyre, 1977, p. 255), the approach actually had multiple theoretical underpinnings. In the first years of the model's use in the UK, microteaching was strongly influenced by behavioristic psychology. (This was the rationale that had dominated in the development of the model in the US.) Two fundamental elements of behavioral learning theory were used to explain why microteaching works or to criticize the application of microteaching in teacher education (e.g., St John- Brooks & Spelman (1973): programmed instruction/ reinforcement and task analysis. At the beginning of its adaptation in the UK these ideas were applied to microteaching to develop immediate proficiency by training particular overt behaviors (see e.g., Batten, 1978). Teaching skills to be mastered were specified and precisely defined as isolated specific performance behaviors from a task analysis of teachers in their classrooms. Training in these behaviors was done systematically, step by step. For each component skill, the teacher would viewing a demonstration, practice the skill repeatedly (and mechanically) in controlled structured practice, then receive specific feedback and evaluation on this practice, providing reinforcement to bring the performance close to the given objective and definition.

In the early- and mid- of the 1970s, proponents of microteaching in the UK moved away from the behavior modification approach because of its limitations and because of the strong critiques of this behavior approach. Alternative theoretical rationales were, however, rarely made explicit. The component skills approach was still accepted, but more emphasis was placed on a progressive integration of skills, rather than mere training in specific skills. In many program, this shift was accompanied by a progressive increase in microlesson time and in the number of pupils in the microclass (McGarvey & Swallow, 1986, p. 12). Social psychological and cognitive explanations of how behaviors are acquired and used were suggested at later stages of the microteaching development in the UK (McGarvey & Swallow, 1986). At the New University of Ulster, for example, Brown (1975) developed a microteaching program based on the Social Skills Model of Argyle (Argyle, 1969), incorporating not only improvement of performance but also the development of cognitive processes like planning and perception. Though the skills to be developed in this program were similar to those of the Stanford microteaching model, improvement of teaching was seen as dependent, not only on practicing these skills but also on understanding these skills and their integration into the teaching process. This idea was further developed by Hargie and Maidment (1979) who give microteaching a strong academic component, emphasizing the importance of discrimination training and analysis, thereby developing an understanding of the teaching process.

When microteaching was introduced at Stirling University, it was accompanied by a six year research program to evaluate its contributions

to the preservice education of secondary school teachers. Although it began with the Stanford model and its behavioristic rationale, this research project gradual developed an alternative rationale for microteaching (McIntyre et al., 1977). As a result, some changes were made in the microteaching format. The authors did not produce a complete alternative model of microteaching, but did describe features of a general explanation of microteaching, in which students' cognition was stressed:

> (1) Before entering microteaching programs, each student has distinctive, complex conceptual schemata relating to teaching, these schemata having strong valuative associations.
>
> (2) Individual differences in these conceptual schemata are large, but large areas of commonality may also obtain, through the embedding of the schemata within (inter alia) a network of schemata representing specific subject ideologies.
>
> (3) These conceptual schemata show a high degree of stability but can change gradually through the assimilation of new constructs and principles, acquired through instruction and experience.
>
> (4) Students' conceptual schemata to a large extent control their teaching behavior, and changes in behavior result from changes in schemata.
>
> (5) New concepts and ways of perceiving teaching are acquired largely as a result of instruction, but new principles and ways of evaluating teaching are acquired not only from instruction but also from students' perceptions of what actually occurs in their microteaching lessons; and where these two influences conflict, it is the latter which predominates.
>
> (6) Since the constructs in terms of which students will perceive their lessons are largely determined before they teach the lessons, the kinds of mechanical or descriptive with which they are provided will have only little influence on the nature of their perceptions or therefore on their subsequent teaching behavior.
>
> (7) Since students' explanations of the effects of teaching behaviors, and consequently their evaluations of it, are influenced by what happens in their lessons, the interpretations and judgements of others on lessons they have taught, and the

> alternatives they offer, are potentially influential factors in students' learning. (McIntyre et al., 1977, pp. 260-261)

As this citation suggests, microteaching is seen by MacLeod and McIntyre (1977) as a means of producing changes in cognitive structures and activities, rather than (short term) changes in overt behaviors. (See also MacLeod, 1977).

From the UK, the microteaching approach was also disseminated to countries with historical links to the UK, such as India (e.g., Perrott & Padna, 1981), Zimbabwe, and South Africa (e.g., Maarschalk, 1979).

Germany

The microteaching movement got its start at the Universität Tübingen, then quickly spread to other institutions in German-speaking countries. The largest body of later research and development was also done Tübingen, with isolated studies at other locations.

Initial work in Tübingen. The first attempt to develop a method similar to microteaching in German speaking countries was made in 1965 at the Zentrum für Neue Lernverfahren, University of Tübingen, West Germany. The first West German publication on such a method appeared in the mid 1960s, when Zifreund published his ideas on training teacher behavior in small group settings using video recordings, and reported his preliminary experience with industry instructors and student teachers at the University of Tübingen (Zifreund, e.g., 1966a, 1966b, 1967, 1968, 1971). Zifreund's starting point was, as similar to that of the Stanford group, that

> highly complex behavior patterns can best be learned if their various elements are first learned and habitualized in isolation. One logical consequence of this hypothesis is that initial teacher training should separate the learning of teaching methods from the

> learning of interaction with children, and that both should be introduced in school-external situations. (Zifreund, 1966, p. 71)

Beginning in 1965, training courses have been conducted regularly for prospective secondary school teachers at the Zentrum für Neue Lernverfahren (Center for New Learning Methods) at the University of Tübingen. The emerging training system allowed trainees to consider to the best of their judgements which behaviors needed to be learned. As a first step, each trainee conducted a carefully prepared microlesson in a peer teaching situation or with pupils. The microlesson was recorded on video. The training group (usually five peers) then observed the videotaped lesson. While the trainee each observed their own videotape alone, the training group discussed and developed alternatives to the microlesson and presented them to the trainee. Then, time was provided for intensive reflective discussion. Based on each trainee's experience during this self-confrontation exercise and one the alternatives developed by the group, the trainee prepared to teach the lesson again, with in a different group of students. The cycle is repeated for this second, "reteach," lesson. This process was supported by a specially developed observation instrument, which assessed the sequence of concepts presented and the interaction while they were presented (see Zifreund, 1966).

In addition to his own work, Zifreund (1966a, 1966b, 1967, 1968, 1970) also introduced ideas from the work at Stanford. In the late 1960s, Becker (1973, 1983) also drew on both on both Zifreund's approach and on the approaches developed in the USA, in developing the "Situative Lehrtraining" (teacher training for typical classroom situations). The progrom focused on groups of teaching skills assumed to be effective for

specific instructional situations (like small group work, individual work, expository teaching, or classroom discussion). The training model consisted of theory presentation (written material) with discussions, model presentation, practice in one microlesson (with feedback using video and observation instruments), and discussions in the training group. Usually about four to ten groups of teaching skills were trained in these one- or two-week courses.

The spread of microteaching in West Germany. From both the Tübingen and Stanford starting points, and inspired by the reception of numerous publications from US and Israeli researchers (e.g., Perlberg, 1969), approaches similar to microteaching spread across West Germany. The amount of interest in these methods is indicated by the volume of publications listed in the two major bibliographic indices mentioned above. These indices indicate that 5.3 percent of all publications on teacher education dealt with microteaching and related training methods.

Microteaching laboratories were put in place at a variety of West German institutions. The teacher training colleges (Pädagogische Hochschulen) using microteaching included: Freiburg, Heidelberg (Becker, 1970), Saarbrücken, Göttingen (Langthaler, 1972), Berlin (Heilmann & Klinzing, 1974), and Siegen. Surveys conducted by Brunner (1973, 1985) indicated that 27 out of 72 West German universities (in 1972-3) and 24 out of 64 teacher training colleges (in 1981) used, at least to some extent, microteaching and related methods.

A further development: Training of Communicative Skills. At the Universität Tübingen, Zifreund and his associates made further developments in their initial approach. Changes were motivated in part

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by a dissatisfaction with a theoretical rationale that borrowed concepts from behavioristic psychology (e.g., reinforcement, modelling). The scholars at Tübingen based their modifications on empirical studies of their own program. The redevelopment was particularly directed at moving from dealing with skills in isolation to taking into account the relationships among teaching skills, their appropriateness and relevance to the particular situation, and their effects on pupils. This new approach, called Training of Communicative Skills (Klinzing, 1976; 1982), shifted the pattern of and relative emphasis on the components of microteaching. With a primary focus on communicative techniques in teaching, the microteaching format was revised to provide students with opportunities to acquire skills, to develop understanding of the techniques, and to make reflective decisions about when and how to use these techniques.

Drawing on Bandura's theory of social cognition (e.g., Bandura, 1977), the programs were organized around the idea of "Interacting as Experimenting" (Klinzing, 1976; 1982). Teaching as experimenting is a concept previously articulated by Coladarci (1959) and Strasser (1967). Other scholars have also suggested it as a framework for training teachers (e.g., Bishop, 1972; Zifreund, 1966). The perspective of interacting as continuous experimentation suggests that teachers should be trained in an experimental manner and in an experimental setting. Microteaching was seen as a format that could be redesigned to promote such experimentation.

To practice or learn teaching as experimentation, teachers need the following interrelated, overlapping categories of knowledge and abilities:

- background knowledge (for establishing an overall framework of purposes, concepts, and their interrelationships)
- the ability to understand and use concepts as organizing tools to guide analysis and consequent action
- a capacity for generating hypotheses
- the ability to carry out skillfully the actions suggested by that hypotheses
- the capacity to learn from the results of such actions

The first two abilities are primarily cognitive; the last two combine cognitive processes with action. The capacity for generating hypotheses bridges thought and action.

From the perspective of teaching as experimentation, microteaching is not used merely to modify overt behaviors. It concomitantly aims at the development of internal (perceptive, cognitive, and affective) structures, which underlie the acquisition and guide the effective and appropriate execution of teaching skills with the--always unique--situation.

In these redesigned programs, trainees were taught to improve in several general skill areas, each supported by research. These skill areas were defined as dimensions of classroom communication (e.g., interest, clarity, indirectness, social climate) or teaching formats (e.g., lecturing, discussion). The particular dimensions of improvement (and the complementary observation systems) differed from one program to

the next. The dimensions included: enhancing indirect behavior in classroom discussions in order to increase pupil participation, enhancing nonverbal expressiveness for arousing interest, clarity and social climate, and improving the intelligibility of the presentation to enhance intellectual contact with the audience. Because such global can be difficult to acquire, a large array low inference component skills were identified and presented to the trainees. Underlying theory and research findings were also presented to help students develop a precise conception and clear understanding of both the global dimensions and the low inference behaviors. Acquisition of the techniques is fostered through conceptual interventions (modeling, discrimination training and game-like exercises).

The following are examples of exercises for selecting, combining, and applying the techniques to various lesson plans or specific situations. Within the framework of the global aspect (e.g., clarity of presentation), the trainees were encouraged to select specific behaviors or groups of behavior and combine them with regard to their own needs and to the effects they intended for a specific content and situation. The individual needs were specified by the trainees on the basis of analyses, reflections, and discussions of their own behavior displayed in one or two diagnostic lessons held before the training. These diagnostic lessons have had specific tasks related to the respective frameworks of the coming training (e.g., expository teaching). The intensive analysis and discussion of the diagnostic lessons was followed by teach-reteach cycles (in comparable or purposely varied situations) with extensive feedback (provided by video, analysis on the basis of

systematic observation instruments, and group discussion). These training cycles gave the trainees an opportunity to enhance and enrich the previously acquired conceptions of behaviors, to match them with the resulting actions or reactions, also to learn to select, combine, and coordinate the techniques creatively into complex pattern of action which meets the global aspect and the demands of the situation. The pattern provided hypotheses which were to be repeatedly tested under the controlled conditions of these practice sessions, responding to the demands of the respective situation. With the help of their training group, the trainees could assess the quantity and quality of the use of their techniques, the effects as well as the appropriateness of their use according to the global aspect and the demands of the particular situation in repeated comparable or in purposely varied training situations. Opportunities for reflective discussion and for the consideration and development of alternatives were provided to improve students' ability to decide on actions, to execute them appropriately, to assess the consequences, and reflect upon in terms of higher order relationships.

In a final evaluation based on lessons comparable to the diagnostic lessons, the trainees could assess their own training progress. At the same time, the developers could assess the effect of the entire program and discuss it with the trainees. The training courses were usually conducted as one- or two-weeks courses, eight hours a day..

Langthaler's (1984) "Teaching Lab." predominantly derived from the microteaching approach developed at Stanford University but enriched by

components derived from group-dynamics (e.g. self- exploration). In one teaching laboratory, a set of three to four teaching skills (e.g., intelligibility of lectures, the use of blackboards and other demonstration devices, or appropriate use of different kinds of praise and corrective feedback) was trained in teach-reteach-cycles, with feedback (video recordings, ratings, and group discussion). The duration of such whole-day courses was about one week.

Further German variations. More approaches of laboratory training developed in German speaking countries were derived from the developments mentioned above. They differ in the way they combine or emphasize the training elements (theory presentation, modelling, discrimination training, and practice with feedback) or added other training methods to the system.

Pallasch (1987) developed a training system which combined elements of Zifreund's approach and the microlessons described by Allen and Ryan. After the trainees were instructed how to develop, define, and justify individually selected teaching behaviors, they discussed them in their training groups with a tutor. Then these teaching skills were practiced in half classes of pupils. The videotapes of these lessons were analyzed and discussed in the training groups.

In her training for pupil-centered teaching, Wagner (1983) emphasized on discrimination training based on written material and/or video-recordings. This training was combined with exercises (games, simulations, role playing, microlessons in peer teaching with feedback), discussions, and "stimulated recall".

Krumm (1973), Weisbach (1982), and Rennen-Allhoff (1983) developed forms of training for special settings, that is for teaching foreign languages (Krumm, 1972) and for counseling. Brunner (1983) combined microteaching with methods of self-exploration. The inservice program developed at the University of Konstanz (Tennstädt et al., 1985) added to microteaching a number of strategies of changing the "subjective theories" of teachers as well as traditional approaches of teacher training.

Since about 1971, research and development of approaches similar to microteaching was conducted in East Germany. Because only a small percentage of East German papers have been available to date, evidence on the past or actual use of microteaching or related methods must postponed to a later paper. It seems so that the developments are strongly influenced by social psychology and personality psychology. The methods developed try to influence cognition more than behavior. Some research has been carried out, but it has been applied primarily to inservice training for political and economical leaders, rather than to preservice teacher education, (see e.g., Alberg, 1988; Mulkau, in press).

Other European Countries

In the late 1960s and beginning 1970s, the publications from the USA became well known also in Western European countries beyond the UK and West Germany. Teacher training institutions in the Netherlands (e.g., Kieviet, 1976), in Scandinavian countries (e.g., Brusling, 1976), in Switzerland, and in Austria adapted the microteaching approach

developed at Stanford University, but were also influenced by the German developments.

In the two French speaking countries in Europe, the publications from Fouquet & Strasfogel (1971, 1972), Weiss (1972), and Dalgalian (1974), created great enthusiasm about the use of microteaching in France and Belgium (see Fouquet, 1986; Renault, 1986; Therer, 1986; Wagner, 1987). Dalgalian's 1972 translation of Allen & Ryan's book on microteaching was especially influential. Emphasis was on the use of closed-circuit television (CCTV) as a tool for analyzing of the own behavior and the behavior of others.

From France and Belguim, interest in microteaching spread to West African countries, where it was used more extensively than in France. (See the papers presented at the conference: Le Micro - Enseignement in 1973; Centre Regional Documentation Pedagogique de Nancy, 1974, and in the May-June issue of Le Francais dans le Monde, 1975.)

Cano & Arrom (1986) provide an overview about the evolution of microteaching in Spain. In Spain, as in France, the adaptation of microteaching and its elements grew out of considerations how to use CCTV most effectively in teacher education. Microteaching appeared first in one of the seminars created by the National Center for Educational Development in 1970/1971. Following several national and international conferences with experts from the UK and the US, there was an extensive push for the use of microteaching in Spain. Centers of the early developments were the Universities of Seville, Madrid, Valencia, and Tárragona. As in other countries, however, microteaching was more recommended and discussed than applied to ongoing teacher education

programs. In the late 1970s and early 1980s wider use of microteaching in Spain was reported, taking many forms. As Cano and Arrom (1986) stated, it was used in almost all teacher training institutions except those without video equipment. As in France, emphasis was on analysis and evaluation of teaching behaviors, rather than on the acquisition of particular teaching skills. Since 1985, when other methods of teacher education (e.g., the "investigation-action method") were disseminated and became influential in Spain, microteaching abandoned by some institutions. Other institutions retained elements of microteaching. A third group tried to integrate microteaching into the incoming approaches to teacher education.

In the early 1970s, several international conferences on microteaching and related methods were held in Europe. These conferences provided an opportunity for the exchange of ideas, developments, and research findings. They also stimulated cooperation among institutions of different countries. For example, the first International Microteaching Symposium was held in 1972 in Tübingen with about 70 researchers from 15 countries (Eubel & Klinzing, 1972; Zifreund, 1976). This symposium was followed by a conference at the University of Stirling: The International Transfer of Microteaching Materials, sponsored by the OECD/CERI (Krumm, 1972). As a result, eight universities from seven European countries decided to participate in the translation of several minicourses developed at the Far West Laboratory for Educational Research and Development in San Francisco.

Comparison of US and European approaches. The microteaching formats that emerged in European countries generally had a structure

similar to those developed in the USA. They focus on specific skills or teaching methods, give an opportunity to learn them by discrimination training or modeling, practice them in teaching encounters scaled down in scope of content, class size, and class time, then provide the teachers with immediate feedback. The teaching skills to be learned were introduced by lectures, discussion or reading written material, videotape demonstrations, or they were developed by the trainees themselves. Practice was provided in a peer teaching format, teaching small groups of pupils (three to eight), half classes or parts of a lesson in an entire class. In some programs a reteach was provided. Feedback was given through a combination of sources: feedback by the group taught, video or audio-recordings, high- and low inference observation instruments, and group discussion with or without a tutor.

Although there are many similarities between these procedures and the North American approaches, the European approaches to microteaching were not exact translations. At the risk of over-simplification, these differences several of these differences.

First, microteaching in the USA emphasized increasing teachers' technical teaching skill (e.g., Allen & Ryan, 1969, p. 4) or immediate proficiency while the West European adaptations--at least at later stages of the adaptation in the mid of the 1970s--stressed making microteaching training more a process of independent personal professional growth.

Second, work in the US has taken a narrow view of the function of practice, holding that the practice in microteaching was at best limited to training teachers to use various teaching acts (e.g., Shavelson,

1976). Except for early adaptations and (re-)developments, West Europeans tended, in the 1970s, to see additional functions for practice, which sometimes influenced the instruction phases and, especially, the design of the practice and feedback phases. These additional functions were to establish a cognitive structure for analyzing situations guiding actions, to enhance the ability to combine and select teaching skills to meet the demands of particular instructional situations, and to help teachers reflect on their classroom experience. In some approaches microteaching has been seen as an opportunity for a self-initiated, self-directed experimentation (Klinzing, 1976; 1982; Klinzing & Floden, 1990), which helps to develop skill acquisition, decision making ability, thoughtfulness, creativity, and responsibility in prospective teachers.

Third, the organization of the European courses were generally not as tight as those developed at Stanford. They were kept more flexible because the courses tended to emphasize the personal development of the trainees.

Although the use of microteaching in some parts of Europe is still poorly documented, the overall picture is that of a strong and increasing interest in microteaching and related methods for training teachers (and other personnel). As countries beyond the UK and Germany develop an accessible body of educational research, perhaps we will see a literature on microteaching that occupies as large as position as that held in the UK and West Germany (e.g., Mutzeck & Pallasch, 1983).

Research on Microteaching in Europe

More than 100 European studies on microteaching and related methods were located. The reference list for this paper contains only those sources we cite.

For West Germany and other German speaking countries studies, we consulted the German Bibliographic Index from 1974 to 1987, and the Auswahl-Dienst: Informationen für Erziehung und Unterricht (ADIEU) from 1976 to 1986. In addition, four journals publishing empirical-analytical studies (Die deutsche Schule, Psychologie in Erziehung und Unterricht, Unterrichtswissenschaft, Zeitschrift für erziehungswissenschaftliche Forschung) and references to major monographs on teacher education were consulted. (From these sources, 77 studies dealing with microteaching were located, representing about half of the empirical-analytical research on teacher education in West Germany.

While a comprehensive review can be provided for West Germany, not all studies could be located for other European countries. For the United Kingdom, studies were consulted which are cited in the research reviews of McGarvey and Swallow (1986), Hargie and Maidment (1979), Batten (1978), MacLeod (1987) Pegg (1985), and Butcher (1981). The early bibliographies of Falus and McAleese (1975) and McAleese and Unwin (1973) were also consulted. For Belgium, France, and Spain, we used the reviews in the special issue of Educational Media International (EMI, 1986).. For the Netherlands and Sweden, the related chapter of Tisher & Wideen (1990) was consulted. This review is intended to provide a

representative picture of the state of the art of West European countries for microteaching and related methods.

Rather than selecting studies according to their mention of the term, "microteaching," we selected studies based on whether they studied programs which incorporated the elements centralling connected to this approach to teacher education. In particular, we consulted research on programs consisting of the elements: theory presentation, discrimination training, self-analysis, modeling, practice in a laboratory format (e.g., in small groups of pupils or peers, sometimes in entire classrooms) with feedback (video-recordings, observation instruments, tutors, group discussion), or some combination of these components. Sometimes the training was integrated into a training course (Tennstädt, 1987), into the teacher practicum (Brunner, 1977; Kelley, 1973; Steinhorst, 1985), or as phases of semester courses or of the whole teacher education curriculum (Batten, 1978; McIntyre, 1977; McIntyre et al., 1977). The duration of the programs studied varied from 15 to about 60 hours. They were conducted as traditional courses in weekly sessions, or as whole-day courses, respectively.

Programs varied in the specific outcomes they attempted to achieve. The programs dealt with the enhancement of:

- overall effectiveness (Brown & Armstrong, 1975)
- lecturing/expository teaching (Brown, 1976; Brown & Armstrong, 1975; Brown & Daines, 1983; Griffiths, MacLeod, & McIntyre, 1977; Kieviet, 1971; Klinzing, 1987; Klinzing & Floden, 1989; Klinzing & Koch, 1987; Langthaler & Wothke, 1979; McIntyre, 1977),
- set induction (Britton & Leight, 1971),

- questioning techniques (Batten, 1978; Bredänge & Tingsell, 1974; Brown & Armstrong, 1975; Brunner, 1977; Butts, 1977; Kelley, 1973; Kieviet, 1971; Kieviet, van der Plas, & Brandt-van Heeswijk, 1974; Klinzing-Eurich, & Klinzing, 1981; Klinzing & Klinzing-Eurich, 1986; McIntyre, 1977; MacLeod, 1977; MacLeod, Griffiths, & McIntyre, 1977; Millar, 1977; Perrott, 1976; Veenman et al., 1974),
- behavior modification and classroom management techniques (Faber-Dürrschmidt, Siep, & Jehle, 1981; Jehle, 1983; Kern, 1979, 1980; Langthaler, Schulz, & Elsinghorst, 1986; Tennstädt, 1987),
- nonverbal behavior and nonverbal perceptiveness (Brusling, 1974; Klinzing, 1987, 1988; Klinzing, Fitzner, & Klinzing-Eurich, 1983; Klinzing, Fitzner, Kunkel, Schiefer, Steiger, Klinzing-Eurich, 1985, study 6; Klinzing, Kunkel, Schiefer, Steiger, 1984; Klinzing, Leuteritz, Schiefer, & Steiger, 1986, study 2 and 4; MacLeod, Griffiths, & McIntyre, 1977; McIntyre et al., 1977),
- indirectness, skills related to inquiry teaching, and the discussion method (Brown & Armstrong, 1975; Kern, 1983; Klinzing, 1982; Kok, 1980; MacLeod, 1977; Schlein, 1976; Schmitz, 1974; Steinhorst, 1985; Weisbach, 1978, 1979; Wragg, 1971),
- improvement of skills for teaching divergent thinking (Grampp, 1984),
- specific subject matters or teaching in specific contexts (for social studies teaching: Becker, 1973; for foreign language teaching: Krumm, 1973; for physical education: Hanke, 1980; for vocational education: Becker et al., 1977; for history: Butts,

1977; Sageder, 1985), and counseling skills for teachers (Rennen-Allhoff, 1983; Weisbach, 1982; Weisbach & Donzelli, 1982).

In additional studies and in studies integrated into ongoing programs, the effectiveness of single elements of microteaching or a combination of elements was tested.

The studies were descriptive, experimental or case studies. They typically emloyed pre-experimental or quasi-experimental designs.

Training success was assessed with a variety of methods. Questionnaires assessing the trainees' attitudes towards the training method and its elements were used in most studies. In some cases, this was the only evaluation instrument (Brunner, 1977; Gregory, 1971; Hargie, 1977a; Hargie 1977 b; Klinzing & Klinzing-Eurich, 1986, study 4 and 5; McIntyre & Duthie, 1970, 1977; Perrott & Duthie, 1970). Other paper-and-pencil tests employed were specially developed measures covering areas including: knowledge acquisition, perception of teachers' own microteaching performance, discrimination tests, teacher reaction tests, tests for the assessment of subjective theories, attribution tests, attitude inventories, and tests assessing divergent student thinking.

The other type of measurement often used was a performance test of rated by independent observers using high- and low-inference observation instruments, or were evaluated in terms of teacher and pupil ratings, grades by supervisors, or of student achievement.

Due to space limitations, only a short summary of the main results can be given. Studies show positive results for many outcomes. In almost all cases the programs were accepted by the participants, with

participants rating the kind of training and its elements very favorably. Furthermore, knowledge was acquired successfully (Jehle, 1983; Kieviet, 1971; Langthaler et al., 1986), verbal and nonverbal perceptiveness, interpretation and evaluation of observed situations, perception of their microteaching performance could be enhanced (Klinzing, 1982; Klinzing et al., 1984; 1986, study 2; Klinzing, 1988a; Millar, 1977), reactions to (hypothetical) situations could be improved (Tennstädt, 1987), and at least to some extent the trainees' subjective theories (Sageder, 1985; Tennstädt, 1987), attributions of teaching success (Steinhorst, 1985), and attitudes (e.g., non-directiveness, professionalism: Krumm, 1973; Steinhorst, 1985) were changed in the desired direction. (Test effects may compromise the validity of attitude change studies.) For self-rated persuasiveness and assertiveness, however, no changes could be observed (Klinzing et al., 1984; Steiger et al., 1984).

Most important, in most related studies, the quantity and quality of teacher behaviors could be improved for all the skill areas mentioned above. The acquired behaviors seemed to be integrated into the repertoire of the trainees so that the changes could still be observed some months after training (Butts, 1977; Klinzing-Eurich & Klinzing, 1981; Klinzing et al., 1983; Perrott, 1976; Weisbach, 1979, 1982; but not in the study of Stukat, 1972).

Positive training effects could also be assessed in terms of student behavior (e.g., amount of student talk, student initiated talk, student-student-interaction, student talk on a higher cognitive level, student disruptions: Klinzing, 1982; Klinzing-Eurich & Klinzing, 1981;

Klinzing & Klinzing-Eurich, 1986; Tennstädt, 1987). In addition, improvement in other behaviors and in globally defined behavioral dimensions (e.g., activity, indirectness, clarity and interest of the presentation, social climate, assertiveness and persuasiveness; global supervisor, teacher, and pupil ratings) could be observed in studies where considerable practice was provided (Britton & Leiht, 1971; Brown, 1973; Brown & Armstrong, 1975; Grampp, 1984; Klinzing, 1982, 1988a, 1988b; Klinzing et al., 1983; 1984; Klinzing & Klinzing-Eurich, 1986; Klinzing-Eurich & Klinzing, 1981; Langthaler & Wothke, 1979; Schmitz, 1974; Spelman, 1975; Tennstädt, 1987; Wragg, 1971), and possibly in student achievement (divergent thinking) (Grampp, 1984). Comparisons across pre- and in-service studies indicate that the training seemed to be about equally effective for teachers with different amounts of experience.

Not all studies showed positive results for microteaching. In all cases, however, interacting reasons for the minimal success can tentatively be given. For instance, if the training program is too short, especially if there is not enough opportunity provided for practice, little success can be expected (Batten, 1978; Becker, 1973; Klinzing, 1982; Rennen-Allhoff, 1983). This is especially true where the behaviors to be learned were unusual and not often used, and the group of behaviors was too large and heterogeneous for experimenting with them individually in the practice sessions (Becker et al., 1977; Klinzing & Klinzing-Eurich, 1986; Klinzing & Koch, 1987; Schmitz, 1974, study 1). Findings of some studies indicated that training programs were more successful if they were conducted as whole-day courses over a

number of days, as compared to courses conducted as weekly two-hour sessions (Klinzing, 1982; Klinzing & Klinzing-Eurich, 1986; Klinzing-Eurich & Klinzing, 1981; Voss, 1987).

Some findings from studies comparing the relative effectiveness of single or multiple training components support the assumptions derived from the studies rated as not successful. From these findings it can be stated that self-confrontation via video-recordings with or without additional group discussion (Bierschenk, 1972; Klinzing-Eurich & Klinzing, 1985) as well as theory presentation alone (Klinzing et al., 1983), are not sufficient to produce changes in perceptions or in verbal behavior (Klinzing, 1982; MacLeod, 1977; Thiele, 1978). It was found, however, (Batten, 1978; Hanke, 1980; Klinzing et al., 1983) that intensive discrimination training can have a significant impact on behavioral change. Theory presentation in combination with discrimination training or planning and analyzing teaching as opposed to theory presentation, discrimination training/planning and analyzing teaching leads to similar results (Batten, 1978; Brusling, 1974; York, 1977), is slightly less effective (Kieviet, 1972, study 1 and 2; McIntyre, 1977; MacLeod, Griffith, & McIntyre, 1977; Veenman et al., 1974, study 2), or clearly less effective (Klinzing, 1982; Klinzing, Klinzing-Eurich, & Floden, 1989; Klinzing-Eurich & Klinzing, 1988; Thiele, 1978; Veenman et al., 1974, study 1; Trott, 1988). Thus, the majority of studies suggests that repeated practice in a laboratory format is essential for changing behavior and for learning to use it appropriately.

Some studies provided descriptive information on supervisor/tutor feedback (McGarvey & Swallow, 1986). Other studies assessed the effectiveness of different feedback modes: Although students generally reacted positively to video feedback (Batten, 1978; Brown & Armstrong, 1975) and to tutors/supervisor presence in the feedback process (Batten, 1978; Griffiths, MacLeod, & McIntyre, 1977; McIntyre, 1977) there was little general relationship between modes of technical feedback or the presence or absence of a supervisor and skill acquisition (Batten, 1978; Brusling, 1974; Griffiths et al., 1977; Wragg, 1971). But feedback that uses systematic observation instruments (e.g., Flanders, 1970) is an important tool to achieve changes in behavior (Wragg, 1971).

Perceptual modeling appears to add nothing to symbolic modeling, if the training aims at the improvement of verbal skills (higher cognitive questions: Klinzing-Eurich & Klinzing, 1981), positive models appear to be more effective than negative models (Gilmore, 1977), and cued modeling and non-cued modeling, as well as individual work and group work produce differences in effectiveness for different skills differently for field-dependent and non field-dependent student teachers (Brusling, 1974; Voss, 1987).

These results are consistent with the research done in the US, Israel, and Australia as previous reviews (Joyce & Showers, 1981; Klinzing & Floden, 1990; Klinzing & Tisher, 1986, in press; Peck & Tucker, 1973; Turney et al., 1973) suggest.

Discussion

This review of West European research has drawn on more than 100 studies on microteaching or related methods in teacher preservice and inservice education. The review indicates supports the value of these methods, because they achieve significant both improvements in individual teaching behaviors and in general dimensions of teaching behavior.

Though the microteaching approach teachers typically tries to change specific behaviors, related behaviors are also affected. Consideration of internal and external feedback loops leads to speculations about links between behavior changes and changes in underlying personality dimensions, but existing research on microteaching does not yet provide support for this connection.

European teacher education programs have often combined microteaching with elements from other approaches. For example, exercises in reacting more appropriately to educational situations (critical incidents: presented in writing or film clips), or case studies combined with reflective discussions, may extend microteaching to a deeper understanding of the functional value of the concepts and behaviors to be learned and may prepare and help trainees make more appropriate decisions in the practice sessions (see e.g., Klinzing & Floden, 1990; Klinzing & Tisher, in press).

Besides the cognitive acquisition of the behaviors to be learned and the understanding of their functional value, an important element of microteaching is the opportunity for practice in a laboratory setting with informative feedback. It is widely recognized that repeated

practice, under controlled conditions, with informative feedback is a necessary condition acquisition of behavioral skills (as some researchers argued polemically, e.g., Shavelson 1976; Wagner, 1976). Such practice is, however, also necessary for other learning goals, including: achieving an accurate match between intentions and actions, enhancing decision making ability, and acquisition of analytical skills. Such practice also provides trainees with opportunities to reflect on experience. The opportunity for repeated practice of a skill seems to be of high importance, especially repeated practice in laboratory settings that allows for experimenting with one's own behavior (Klinzing, 1982; Klinzing & Floden, 1990; Klinzing, Klinzing-Eurich, & Floden, 1989; Zifreund, 1966). By controlling the conditions for practice (either making them comparable from one session to the next or varying them intentionally), teacher educators can help their students observe and understand the effects of a given behavior on the interactional context. Understanding is important for appropriate and effective use of the behaviors.

The specific type of practice sessions as well as their related feedback sources and phases depend heavily upon the type of behavior to be trained, on its degree of complexity, and on the context where it is to be used. It also depends on how closely related the behaviors are in the respective training program. This applies also to the training conditions of the repeated training sessions, whether these are re-teaches, as with the microteaching, or series of comparable training situations where the behavior can be trained step by step integrating each earlier learned behaviors (e.g., Klinzing et al., 1985), or whether

these are training situations varied systematically in contents, design, and degree of complexity (Klinzing, 1982).

As in the US and other countries, in West European countries microteaching and related methods are used in many universities and teacher training colleges. But very few of these institutions offer more than one course each term. Given the sound research base for its use, the reason for this may be the effort required to include this method, particularly to integrate it into the existing curriculum. Furthermore, not infrequently, the general attitude toward this method is influenced by trends, fads, and prevailing ideologies in educational research as well as in teacher education. An open and innovative access to this approach would help considerably to improve the present teacher training practice.

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